



Installation Manual

TrackKing™ Cellular For Thermo King Trailer Units

TK 56096-11-IM (Rev. 0, 07/15)



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TrackIng Cellular

Release History

Released (07/15)

Introduction

This manual was written to assist with the installation and activation of **Thermo King TracKing Cellular** components onto Thermo King trailer units. Due to its complexity, you should not attempt this installation unless you:

- Are an experienced mechanic.
- Can safely lift 34 kilos (75 lbs.)
- Are certified or trained in the repair and maintenance of mobile air conditioning systems.
- Have a basic understanding of electricity and electrical wiring.
- Have the necessary tools and equipment to complete the installation
- Have a vehicle designed, built or modified to meet the requirements of this installation.

This manual is published for informational purposes only. Thermo King makes no representations warranties express or implied, with respect to the information recommendations and descriptions contained herein. Information provided should not be regarded as all-inclusive or covering all contingencies. If further information is required, Thermo King Corporation Service Department should be consulted.


Thermo King's warranty shall not apply to any equipment which has been "so installed, maintained, repaired or altered as, in the manufacturer's judgment, to affect its integrity."


Manufacturer shall have no liability to any person or entity for any personal injury, property damage or any other direct, indirect, special, or consequential damages whatsoever, arising out of the use of this manual or any information, recommendations or descriptions contained herein.


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Safety Precautions


The  symbol appears next to a point that is particularly important:


 **DANGER:** Addresses a circumstance that, if encountered, will lead to death or serious injury


 **WARNING:** Addresses a circumstance that, if encountered, might lead to death or serious injury.


 **CAUTION:** Addresses a circumstance that, if encountered, may cause damage to equipment or minor injury.


 **DANGER:** Before servicing the unit, set all unit electrical controls to the OFF position and disconnect the negative (-) battery cable to prevent the unit from starting and causing serious injury.


 **DANGER:** Units equipped with electric standby must be disconnected from the electrical supply source to avoid possible electrical shock and to prevent the unit from starting and causing serious injury.

 **WARNING:** Always wear goggles or safety glasses while servicing the unit. Refrigerant liquid, refrigeration oil, and battery acid can permanently damage the eyes.

 **WARNING:** When using ladders to install or service refrigeration systems, always observe the ladder manufacturer's safety labels and warnings. A work platform is the recommended method when servicing the unit.

 **WARNING:** Keep your hands away from fans and belts when the unit is running.

 **CAUTION:** Make sure all mounting bolts are tight and are of correct length for their particular application

 **CAUTION:** When working with electronic circuits that contain microprocessors, always wear an electrostatic discharge (ESD) wrist strap. Connect the grounding clip to the chassis ground or CH terminal to prevent electrostatic discharge from damaging circuits.

FCC STATEMENT

Statement According FCC part 15.19



FCC identifier has to be on the equipment

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Statement according FCC part 15.21

Modifications not expressly approved by Thermo King Corp. could void the user's authority to operate the equipment.

Statement according FCC part 15.105

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

RF Exposure

NOTE: The antenna of this device is installed on the top of a Thermo King refrigeration unit which is mounted in front of the trailer. The exposure to radio frequency is very minimal because the position of the truck driver and passenger, forward and below the antenna.

Health and Safety Information

Exposure to Radio Frequency (RF) Signals

This product is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

Installation Tips

Antenna Installation

Install the antenna and bracket per the instructions for your particular unit.

- Be sure the washer is installed next to the nut as shown in the illustrations on pages 11, 23 and 35.

Antenna Cable

Handle the antenna cable with care to prevent damage.

- Cable should be routed safely down the interior of the unit away from sharp edges and hot or rotating components.
- Secure cable adequately while allowing slack around corners.
- Avoid tight bends. Excess cable should be looped in a circle and secured with tie bands.
- Handle the antenna cable connectors with care to prevent damage.

Radio Expansion Board (REB) Installation



CAUTION: *When working with electronic circuits that contain microprocessors, always wear an electrostatic discharge (ESD) wrist strap. Connect the grounding clip to the chassis ground or CH terminal to prevent electrostatic discharge from damaging circuits.*

Handle the REB with care to prevent damage.

- Before installing the REB module onto the controller, be sure pins are aligned correctly and are not bent. Straighten pins if necessary.
- When installing the REB mounting hardware, be careful not to pinch or damage the GPS antenna wire attached to the circuit board.
- REB mounting hardware requires a two-step torque process:
 - Step 1: Torque to 1.4 N•m (12 in-lbs.)
 - Step 2: Loosen and re-torque 1.4 N•m (12 in-lbs.)

Precedent Units Step 1 - Datalogger Configuration Procedures

Configuration Procedures

Before installing the Radio Expansion Board (REB) and related components, use your ThermoServ software and download the data from the TK datalogger.

1. Send a Text Header to the HMI CargoWatch and SR-4 ServiceWatch. This will be used as a “marker” for the TracKing cellular to download over the air (see example).
2. Once the “Datalogger Configuration” window is ready, fill in the blanks for the text header and then click “Send Text Header”.

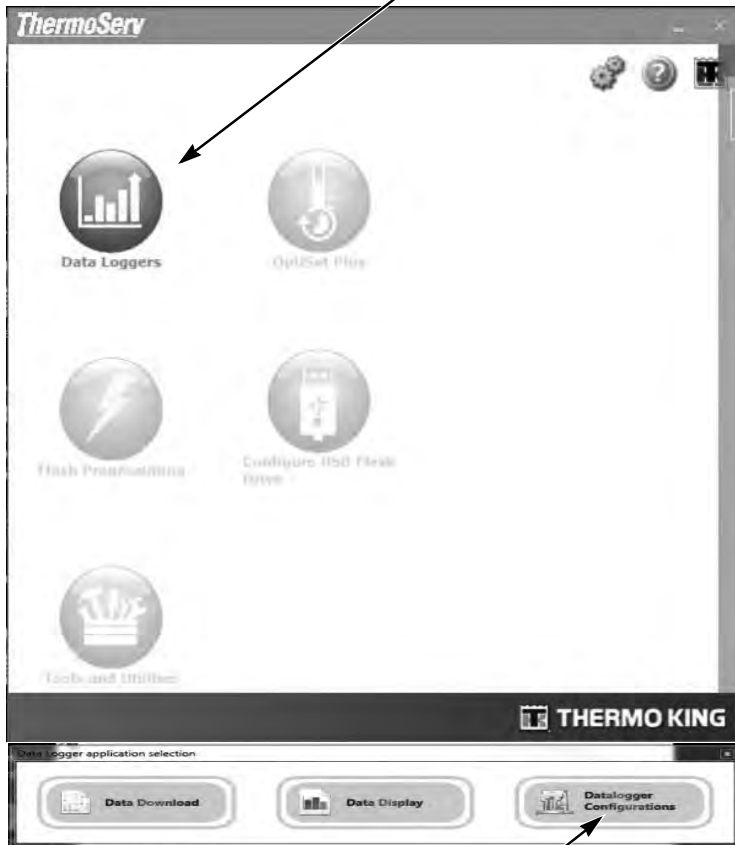
The text header will then be sent to both Service Watch and Cargo Watch.

Software Requirements

Software Requirements
SR4 - minimum BA10 or higher
REB - minimum A035 or higher

Precedent Units Step 1 - Datalogger Configuration Procedures

From ThermoServ home page, click “Data Loggers”



Next, click Datalogger Configuration”

Fill in information

The screenshot shows the 'Datalogger Configuration' window. It has three tabs: 'General Configuration', 'ServiceWatch Configuration', and 'CargoWatch Configuration'. The 'General Configuration' tab is active. It contains two main sections: 'Unit Information' and 'Trip Management'. The 'Unit Information' section has fields for 'Primary Device' (SR4 Multi Temp), 'Controller Serial Number' (XXXXXXXXXXXX), 'Software Revision' (CA00), 'Unit Serial Number*' (0000000000000000), 'Trailer ID*' (0000000000), and 'Datalogger Time*' (01-23-2014 16:15:46). There is an 'Update Unit Information' button. The 'Trip Management' section has a 'Send Start of Trip' button and a dashed box containing fields for 'Container ID*', 'Origin Location', 'Set Point', 'Date/Time' (01-23-2014 16:15:46), 'Destination', 'Comments', 'Vessel ID', 'Shipper', 'Operator Initials', 'Product', and 'Booking Number'. There is a 'Send Text Header' button. At the bottom, it says 'Controller connected.'

Click “Send Text Header”

Precedent Units Step 2 - Antenna and Battery Installation

Antenna Installation and Cable Routing

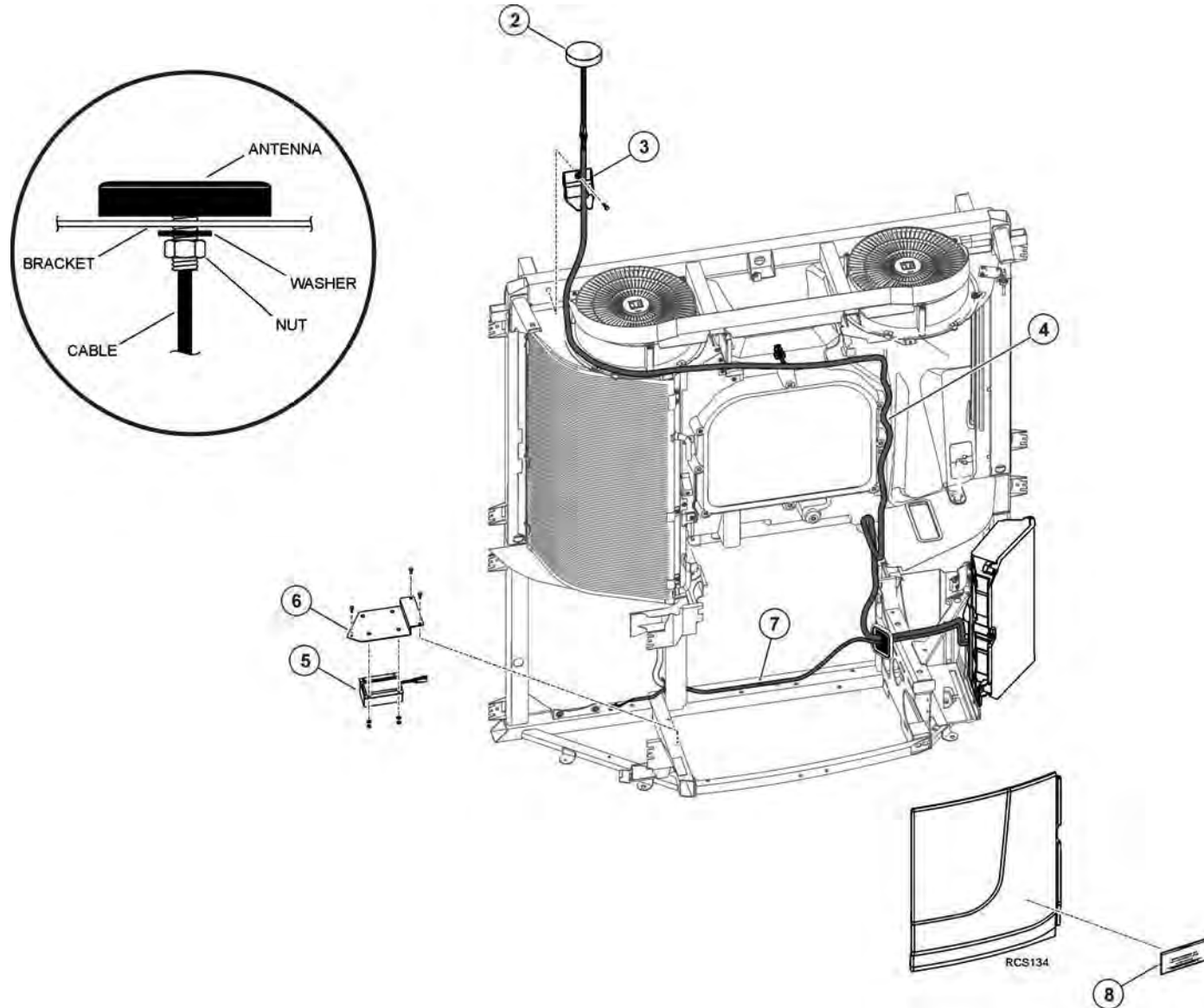
1. Open all unit doors and access panels.
2. Mount the antenna to the antenna bracket with the provided washer and nut and tighten to 10 N•m (88 in-lbs.) The antenna is non-directional and can be mounted in any direction.
3. Attach the antenna bracket to the frame with the supplied M6 screw and tighten hardware to 6.49 N•m (4.79 ft-lb.). There is a single insert provided in the frame for this bracket.
4. Route the antenna cable to the control box as shown.
 - Secure the cable to the main harness with bandwraps.
 - Route the cable into the control box through the access grommet.
 - Maintain 76.2 mm (3.00 in.) of clearances from the muffler, belts and pulleys.
 - Cables will be connected to the REB in a later step.

Battery Installation and Harness Routing

5. Place the battery onto the battery bracket mounting studs and secure with the four supplied M5 flat washers and M5 locking nuts. Tighten hardware securely.
6. Install the battery and bracket onto the curbside frame channels with the three supplied M6 screws as shown. Tighten hardware securely. There are three inserts provided in the frame for this bracket.

NOTE: If your unit has standby power, you will need to remove the mounting bolts securing the transformer box, install battery back-up bracket onto the frame and then reinstall the transformer box on top of the battery back-up bracket and tighten hardware securely.
7. Connect the battery harness to the battery assembly and route the harness through the frame grommets, along the main harness, and into the control box.
 - Harness will be connected to the REB in a later step.
8. Attach the supplied warning label to the front door next to the door latch.

Precedent Units Step 2 - Antenna and Battery Installation



Precedent Units Step 3 - REB Installation

REB Installation



CAUTION: When working with electronic circuits that contain microprocessors, always wear an electrostatic discharge (ESD) wrist strap. Connect the grounding clip to the chassis ground or CH terminal to prevent electrostatic discharge from damaging circuits.

1. Open the control box door and install the REB module onto the controller with the supplied hardware.
 - Be sure pins are aligned correctly and are not bent.
 - When installing the REB mounting hardware, be careful not to pinch or damage the GPS antenna wire attached to the circuit board.
 - REB mounting hardware requires a two-step torque process:
 - Step 1: Torque to 1.4 N•m (12 in-lbs.)
 - Step 2: Loosen and re-torque 1.4 N•m (12 in-lbs.)

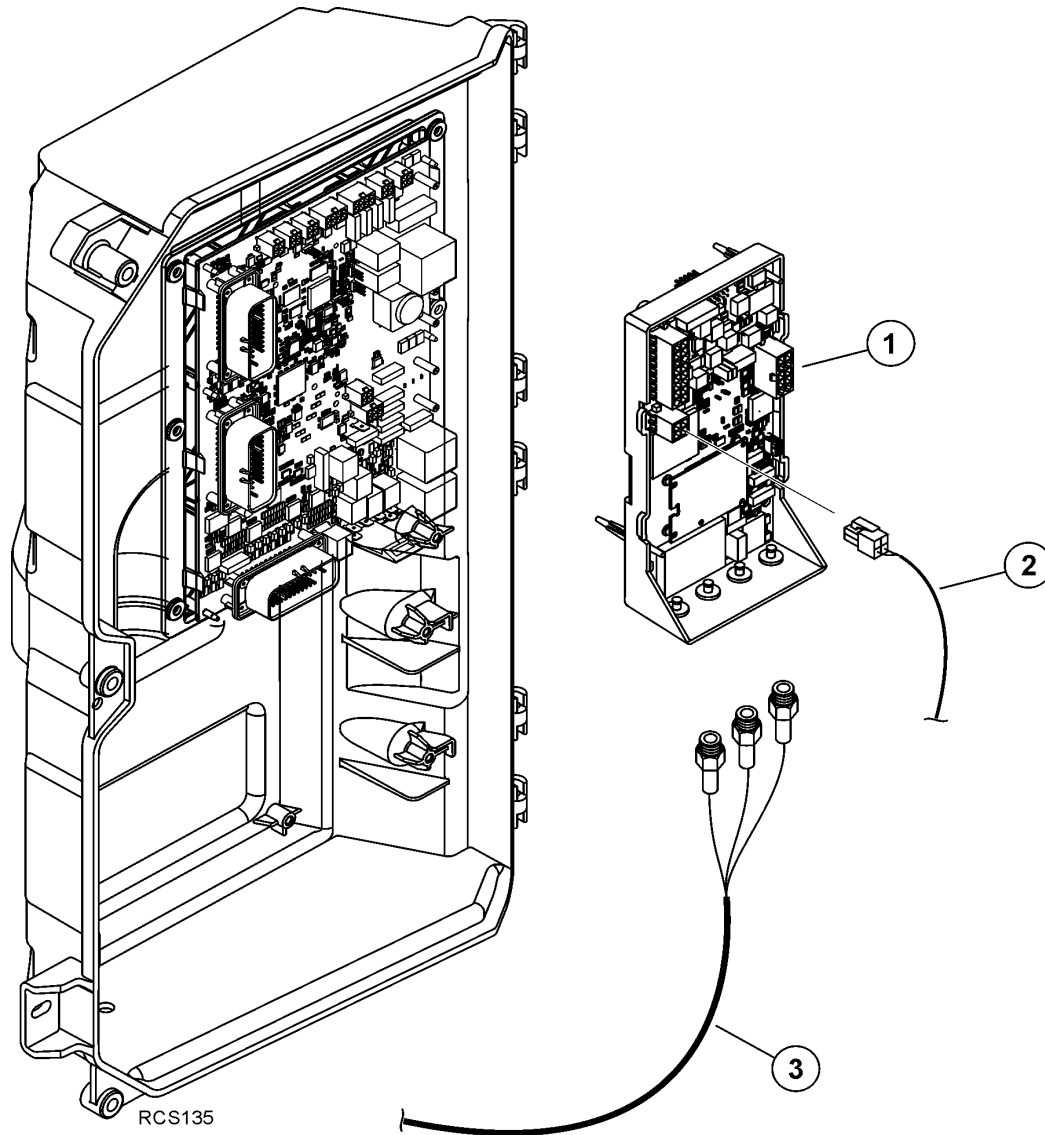
Battery Harness Installation

2. Connect the battery harness 4-pin connector to the 4-pin connector (BVP-01, BVN-01) on the REB.

Antenna Cable Installation

3. Attach the antenna cables to the REB. Make sure the antenna and REB labels match.
 - Torque to 1.4 N•m (12 in-lbs.)
4. Support the antenna wires by securing them to the control box with bandwraps. This will help prevent undue vibration.

Precedent Units Step 3 - REB Installation



Precedent Units Step 4 - Door Switch (Option)

Door Switch Harness Installation

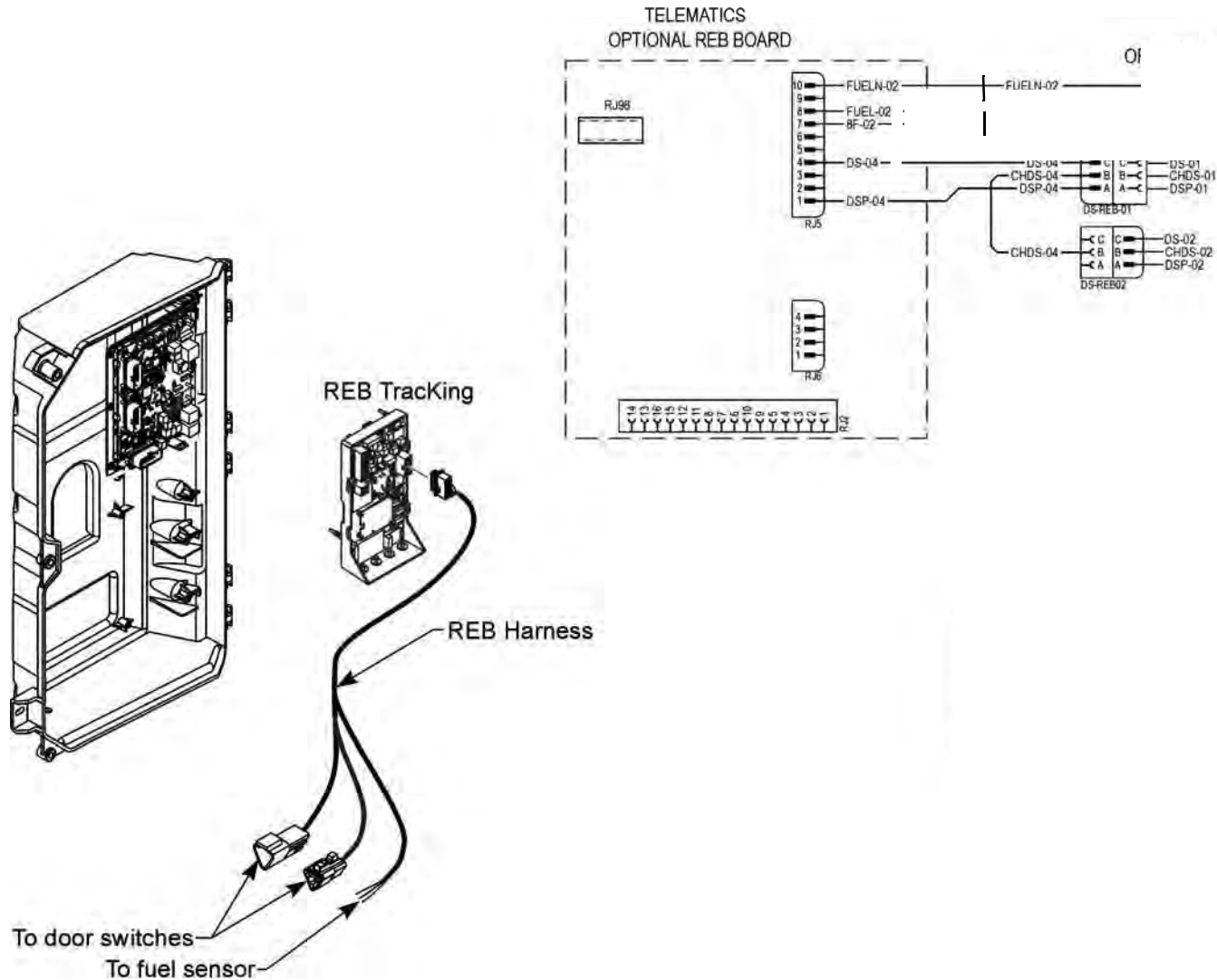
1. Inside the control box:

- Connect the 10-pin REB harness connector to **RJ5** on the REB module.
- Locate the 3-pin Door Switch connector (**DS-01, DSP-01, CHDS-01**). Unplug the connectors and reconnect the REB 3-pin harness door switch connectors (**DT04-3P, DT06-3S**) between the two open connectors.

NOTE: Backup battery must be connected to connector RJ6.

Continue to “Configuring Door Switch” on page 18 to complete the installation.

Precedent Units Step 4 - Door Switch (Option)



Precedent Units Step 5 - Fuel Level (Option)

IMPORTANT: All electrical splice connections of the UFLS harness must be made with crimp and solder style connectors with separate heat shrink tubing. DO NOT burn the heat shrink. If the heat shrink is burnt, charred, or has bubbles from overheating, the wire connections must be removed and redone correctly.

Fuel Level Harness Installation

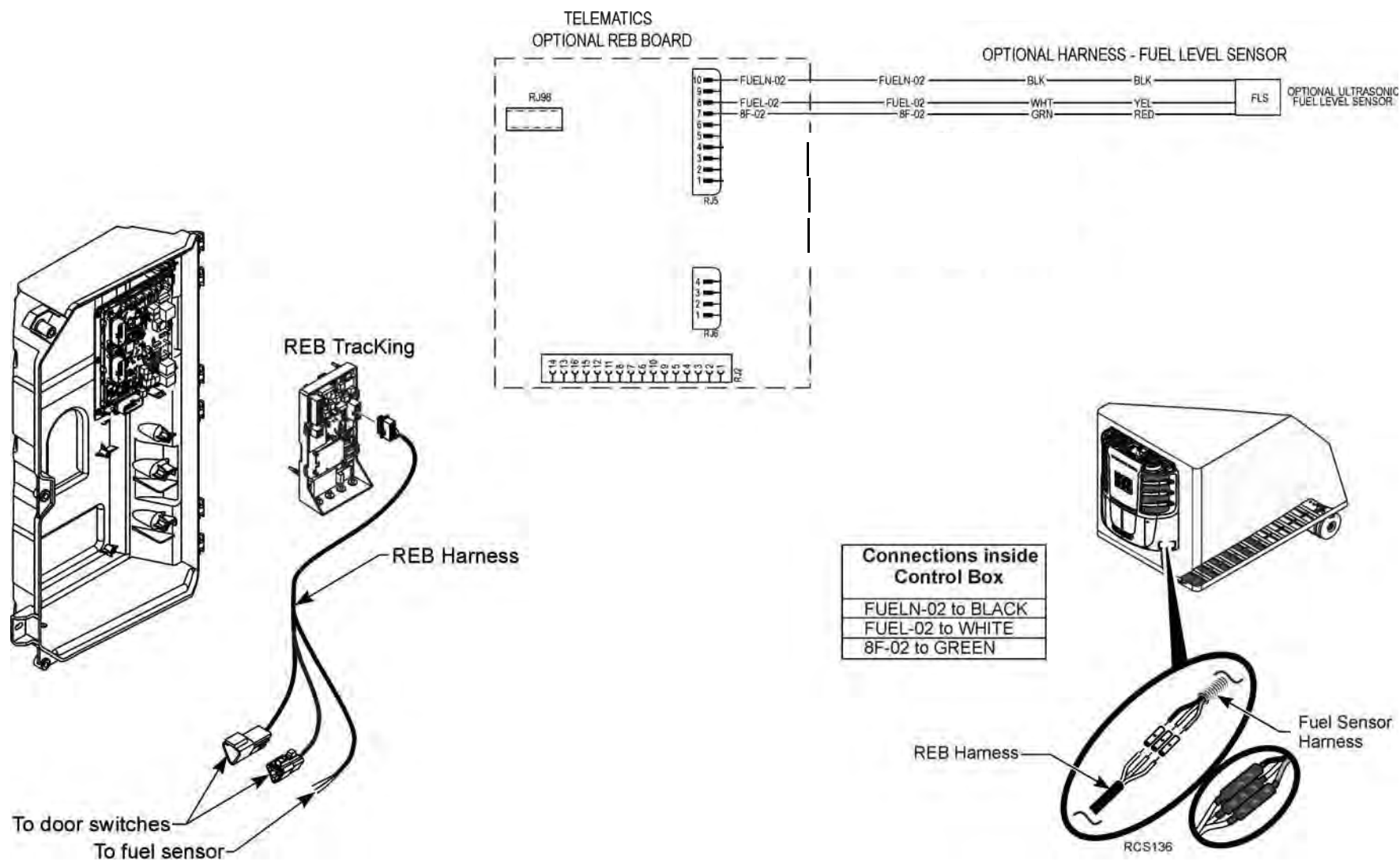
1. Inside the control box locate the existing 3 fuel sensor wires (**BLACK, WHITE, GREEN**) coming into the control box and spliced into the fuel harness (**FUELN-02, FUEL-02, 8F-02**).
2. Cut these 3 wires.
3. Strip the wire ends and slide supplied heat shrink tubing onto each wire and position them away from the joint.
4. Connect each wire from the REB harness to the existing fuel sensor wires with a wire connector and crimp securely.

Wire Connections Inside Control Box
BLACK to FUELN-02
WHITE to FUEL-02
GREEN to 8F

5. Solder wires to wire connectors with a soldering gun.
6. Slide shrink tubing over connections and apply heat with a heat gun.
7. Secure harness inside control box with bandwraps.

Continue to “Configuring Fuel Tank” on page 18 to complete the installation.

Precedent Units Step 5 - Fuel Level (Option)



Precedent Units Step 6 - Configuration Procedures

NOTE: An additional harness (41-9171 sold separately) is required to connect the REB and use TDAC.

Configuring Door Switch

1. Reinstall the unit's negative battery cable.
2. At the unit, go to Guarded Access Menu.

NOTE: The Guarded Access Menu is not available if the engine is running.

3. Turn off the engine.
4. Scroll down and select Unit Configuration.
 - a. REB Door Switch enable (set to Enabled).
5. Using TDAC, connect to REB enable the following under **Device Setting**:
 - a. Read Door in Countdown (set to Enabled).
6. The unit is now programed for door switches, press the exit key.
7. In the TracKing website under **Administration/Vehicle Maintenance**, enable the following:
 - b. Door Switch (select check mark in box).

Configuring Fuel Tank

1. Reinstall the unit's negative battery cable.
2. At the unit, go to Guarded Access Menu.

NOTE: The Guarded Access Menu is not available if the engine is running.

3. Turn off the engine.
4. Scroll down and select Unit Configuration.
 - a. REB Fuel Level Sensor Types (set to Solid State or Float to match type used).
5. Using TDAC, connect to REB enable the following under **Device Setting**:
 - b. REB Fuel Sensor in Countdown (set to Enabled).
6. The unit is now programed for fuel, press the exit key.
7. In the TracKing website under **Administration/Vehicle Maintenance**, enable the following:
 - c. Fuel Tank size value.

Precedent Units Step 6 - Configuration Procedures

Enable Unit for Remote On/Off Commands

1. At the unit, go to Guarded Access Menu.

NOTE: The Guarded Access Menu is not available if the engine is running.

2. Turn off the engine.
3. Scroll down and select Programmable Features.
 - a. Remote Device (set to Enabled).
4. Allow TracKing to report to website.

TracKing Verification Procedures

See “TracKing Verification Procedures” on page 38.

WiFi Configuration (Option)

If REB has the WiFi option, refer to Radio Expansion Board (REB) Diagnostic Manual (TK 55065) for further information.

SB Units Step 1 - Datalogger Configuration Procedures

Units With SR3 Controller

Software Requirements
SR3 - minimum D010 - recommend D030 or higher
HMI - recommend 7580 or higher
REB - recommend A020 or higher

Configuration Procedures

Before installing the Radio Expansion Board (REB) and related components, use your WinTrac software and download the data from the TK datalogger.

Send a Text Header to the **HMI CargoWatch and SR2/3 ServiceWatch**. This will be used as a “marker” for the TracKing GPRS to download over the air (see example).

To retrieve a user manual, go to **www.tktracking.com**, enter your username and password. Click on “User Guide” link in the upper right corner of your screen.

SB Units Step 1 - Datalogger Configuration Procedures

General Info | Start Trip | Sensors | Download

Choose Header: ☒ Text Header
☐ Start-of-Trip (SOT) Header

	Contents	Size
Trailer/Container ID:	UNIT 1234	11 chars
Vessel ID:		8 chars
Origin:	UK	3 chars
Shipper:	EDUARDO	8 chars
Setpoint:		5 chars
Operator:	TAN	3 chars
Date:	07/18/06	8 chars
Time:	10:21	5 chars
Product:	TK GPRS	8 chars
Destination:	TK	3 chars
Booking No.	PD 123456	9 chars
Comments:	Installation	14 chars

Send Text Header...

Download Data... | Update Unit | Close

Text Header

SB Units Step 2 - Antenna Installation

NOTE: These antenna instructions are for SB-30 Series Units using the REB and RAZOR modules.

Antenna Installation and Cable Routing

Open all unit doors and access panels.

1. Mount antenna to antenna bracket with provided washer and nut and tighten securely. The antenna is non-directional and can be mounted in any direction, but it must have an unobstructed view of the sky.

NOTE: Two styles of antennas and brackets are used. Install the antenna and bracket in your kit as shown in the illustration.

2. Loosely attach antenna and bracket to center of frame with supplied 1/4-20 screws, lock washers and flat washers.

NOTE: Look for existing holes in center of frame. If they are not there, use the bracket as a template to mark and drill two 1/4 inch holes and install 1/4-20 threaded inserts (installer supplied).

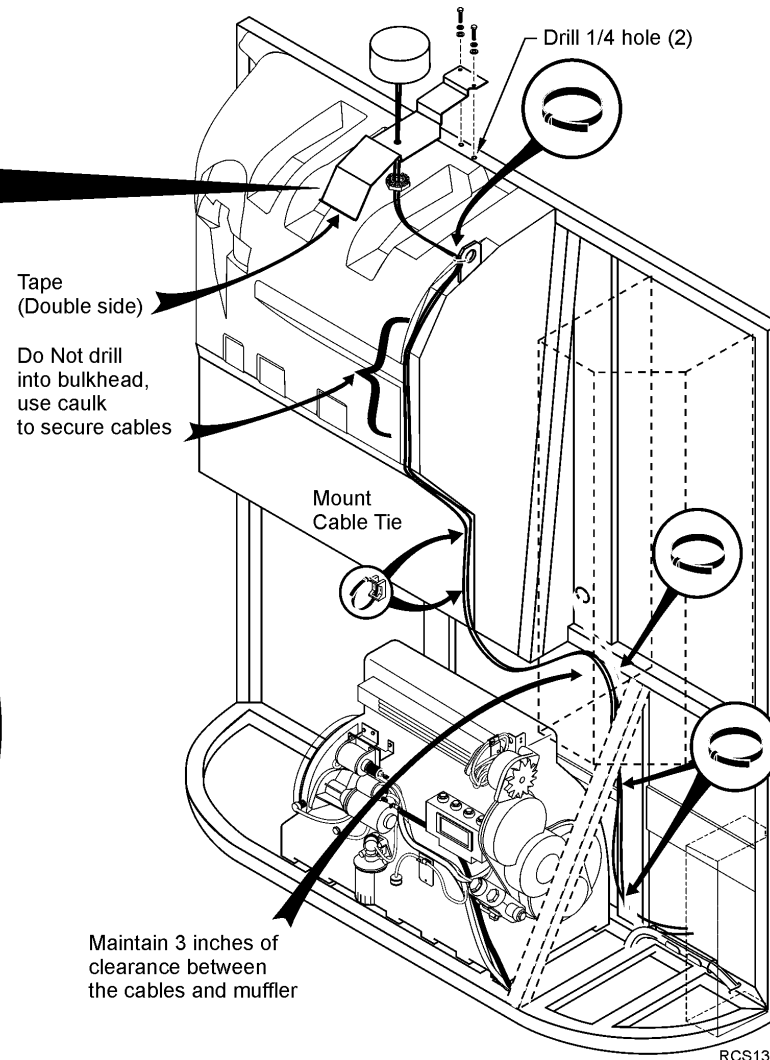
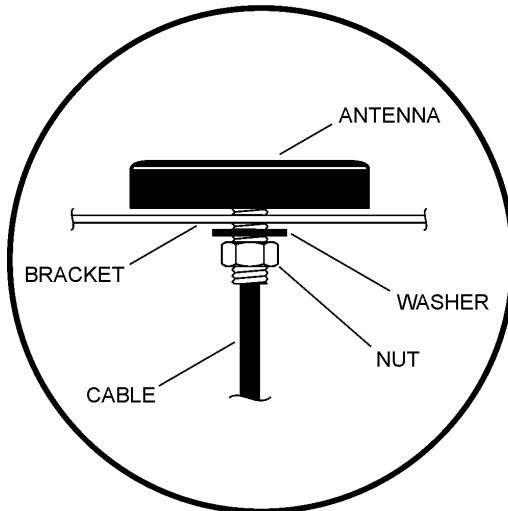
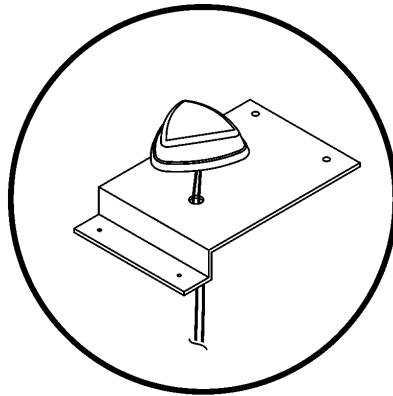
3. Clean plastic bulkhead with isopropyl alcohol wet wipes (203-498) and wipe dry.

IMPORTANT: For maximum bond strength the ideal tape application is accomplished when temperature is between 2.07 to 2.95 C (70 to 100 F) and the bond is allowed to cure for 72 hours. The bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure develops better adhesive contact and thus improves bond strength.

4. Peel off protective double sided tape on antenna bracket and firmly press bracket to plastic bulkhead. Tighten antenna bracket hardware securely.
5. Route antenna cable down to control box as shown. Secure cable to lifting eye with bandwraps and to bulkhead with caulk.
 - Maintain 76.2 mm (3.00 in.) of clearance from muffler, belts and pulleys.
 - Secure cable to main harness with bandwraps and insert cable into control box through harness grommet.
 - Antenna cables will be connected in a later step.

SB Units Step 2 - Antenna Installation

NOTE: Two styles of antennas and brackets are used. Install the antenna and bracket in your kit as shown in the illustration.



RCS139

SB Units Step 3 - REB and Battery Installation

NOTE: These procedures are for SB-30 series units with factory installed SR-3 Controller using REB modules.

REB Installation



CAUTION: When working with electronic circuits that contain microprocessors, always wear an electrostatic discharge (ESD) wrist strap. Connect the grounding clip to the chassis ground or CH terminal to prevent electrostatic discharge from damaging circuits.

1. Open the control box door and install the REB module onto the controller with the supplied hardware.
 - Be sure pins are aligned correctly and are not bent.
 - When installing the REB mounting hardware, be careful not to pinch or damage the GPS antenna wire attached to the circuit board.
 - REB mounting hardware requires a two-step torque process:
 - Step 1: Torque to 1.4 N•m (12 in-lbs.)
 - Step 2: Loosen and re-torque 1.4 N•m (12 in-lbs.)
2. From the SR-3 controller:
 - Attach 10-pin connector to **RJ5** on REB module.
 - Attach 4-pin connector to **RJ6** on REB module.
3. Connect 16-pin connector from REB harness to **RJ2** on REB module.
4. Attach the antenna cables to the REB. Make sure the antenna and REB labels match.
 - Torque to 1.4 N•m (12 in-lbs.)
5. Support the antenna wires by securing them to the control box with bandwraps. This will help prevent undue vibration.

Battery and Harness Installation

6. Gain access to the road side condenser shelf and install the provided bolt plate.
7. Mount the battery assembly under the condenser shelf to the bolt plate with the provided 10-32 locking nuts and flat washers.
8. Connect the 4-pin connector (**BVP, BVN**) from the main harness to the mating connector on the battery charger.
9. Secure excess wires inside control box with bandwraps.

Nameplate Installation

10. Attach the supplied warning label to the front door directly below the door latch.

Enable Unit for Remote On/Off Commands

1. At the unit, go to Guarded Access Menu.

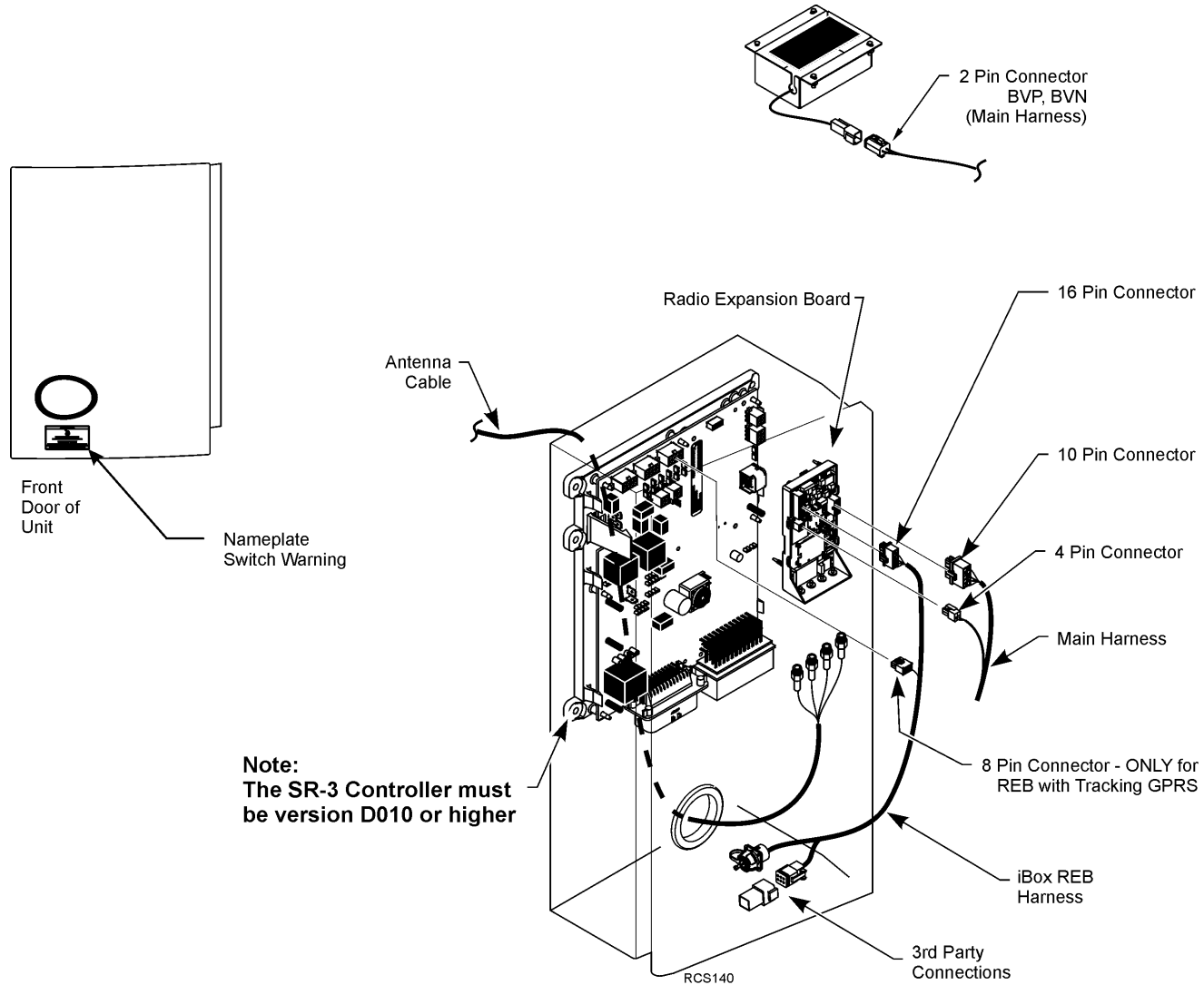
NOTE: The Guarded Access Menu is not available if the engine is running.

2. Turn off the engine.
3. Scroll down and select Programmable Features.
 - a. Remote Device (set to Enabled).
4. Allow TracKing to report to website.

TracKing Verification Procedures

See “TracKing Verification Procedures” on page 38.

SB Units Step 3 - REB and Battery Installation



SB Units Step 3a - REB and Battery Installation (SR2 to SR3)

These procedures are for SB-30 series units that were converted from SR2 to SR3 controller using the REB module.

An additional REB Harness (41-9950) is required to complete this installation and is sold separately.

REB Installation



CAUTION: When working with electronic circuits that contain microprocessors, always wear an electrostatic discharge (ESD) wrist strap. Connect the grounding clip to the chassis ground or CH terminal to prevent electrostatic discharge from damaging circuits.

1. Open the control box door and install the REB module onto the controller with the supplied hardware. Be sure pins are aligned correctly and are not bent. REB mounting hardware requires a two-step torque process:

Step 1: Torque to 1.4 N•m (12 in-lbs.)

Step 2: Loosen and re-torque 1.4 N•m (12 in-lbs.)

2. From REB harness (41-9950) connect:
 - 10-pin connector into **RJ5** connector on REB module.
 - 4-pin connector to **RJ6** on REB module.
3. Connect 16-pin connector from REB harness to **RJ2** on REB module.
4. Attach the antenna cables to the REB. Make sure the antenna and REB labels match.
 - Torque to 1.4 N•m (12 in-lbs.)
5. Support the antenna wires by securing them to the control box with bandwraps. This will help prevent undue vibration.

Back-up Battery and Harness Installation

6. Gain access to the road side condenser shelf and install the provided bolt plate.

NOTE: Use the bolt plate as a template and drill four 5/16" holes.

7. Mount the battery assembly under the condenser shelf to the bolt plate with the provided 10-32 locking nuts and flat washers.
8. From the REB harness (41-9950) route the 2-pin connector (**BVP**, **BVN**) out of the control box through the harness grommet and up to the battery assembly and connect to mating 2-pin connector.
9. Secure excess wires inside control box with bandwraps.

Nameplate Installation

10. Attach the supplied warning label to the front door directly below the door latch.

Enable Unit for Remote On/Off Commands

1. At the unit, go to Guarded Access Menu.

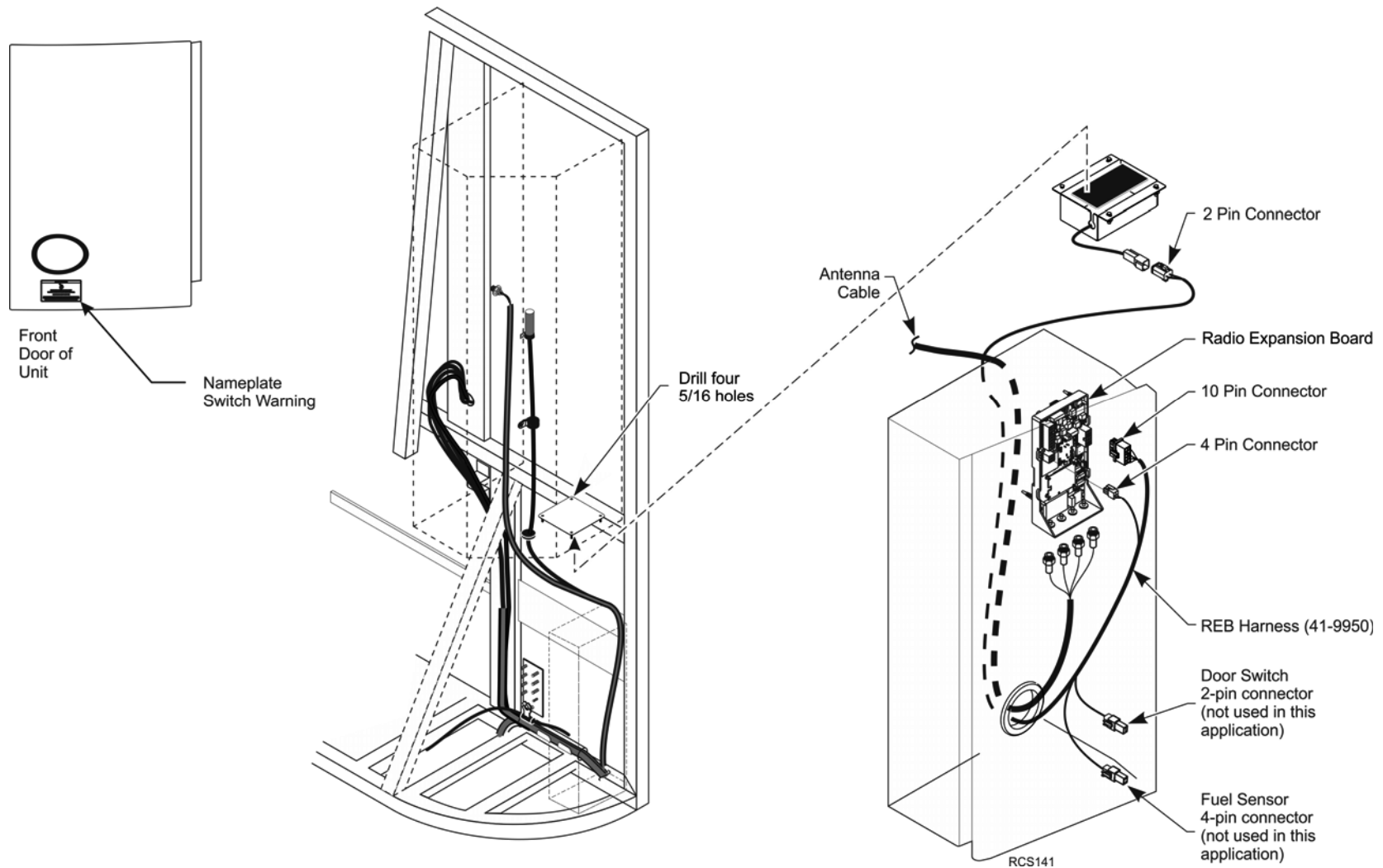
NOTE: The Guarded Access Menu is not available if the engine is running.

2. Turn off the engine.
3. Scroll down and select Programmable Features.
 - a. Remote Device (set to Enabled).
4. Allow TracKing to report to website.

TracKing Verification Procedures

See "TracKing Verification Procedures" on page 38.

SB Units Step 3a - REB and Battery Installation (SR2 to SR3)



SB Units Step 3b - Units with SR2 or SR3 (w/Razor)

These procedures are for SB-30 series units with SR2/SR3 Controller using Razor modules.

TracKing Module Installation

1. Open the control box door and install the TracKing mounting plate onto the inside of the door.
2. Connect the two antenna cables to the TracKing module.
 - Torque to 1.4 N•m (12 in-lbs.)
3. From TracKing harness connect:
 - Two harness connectors to TracKing module.
 - 8-pin connector into **J12** CAN1 position on controller.
If there is a connector in J12, move it to J13 CAN2.
 - OPTION: If all CAN ports are being used, a CAN extension harness (41-8187 sold separately) maybe required.
 - 4-pin connector into **J9** RS232-1 position on controller.
If there is a connector in J9, move it to J10 RS232-1.

NOTE: Plug must be in J9 for Remote Power On/Off to function. If remote controller is used, the ServiceWatch connector should be left unplugged.

- Attach the ground (GND) wire to the control box ground stud.
- Connect the 3-pin connector (**RXB, TXB, DPD**) to the mating HMI/CargoWatch connector if available.

If it is not available, cut off the 3-pin connector and splice wires into the HMI connector:

HMI Harness	Pin Number	TracKing Harness
TXD3	30	RXB
RXD3	18	TXB
DPD3	7	DPD

4. Secure excess wires inside control box with bandwraps.

NOTE: The TracKing harness is protected by the 3 amp fuse in position F8 on the relay board.

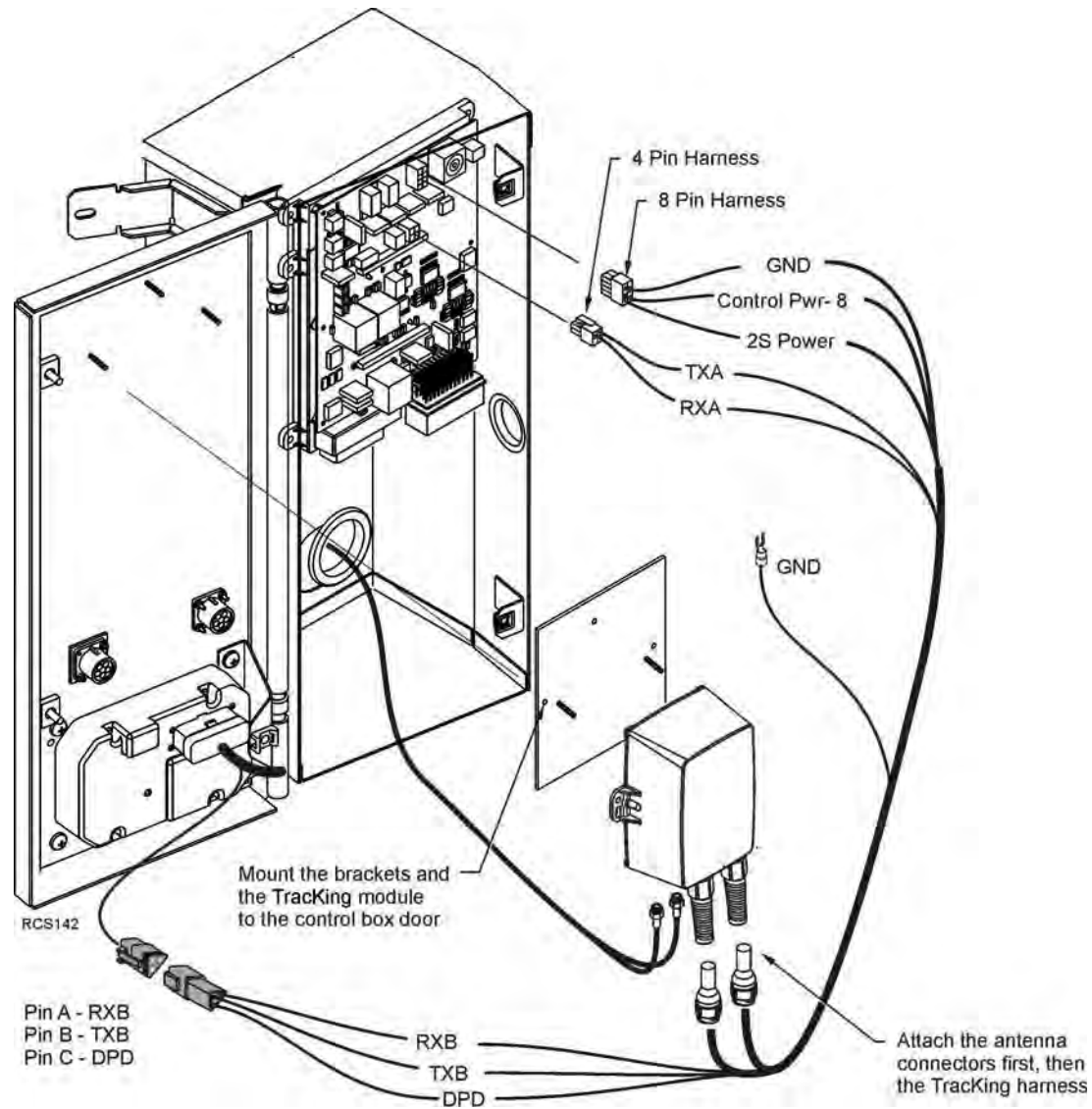
Power Cycle and Setup Procedures

1. Reconnect the negative battery cable:
 - Turn on the unit
 - Disconnect and reconnect the 7-pin connector - this will perform a power cycle of the GPRS module.
2. To enable Remote Power On/Off:
 - a. HMI must be version 6560 or higher or 6517 in SPECTRUM Multi-Temp.
 - b. In Guarded Access, Programmable Features, set Remote Device to “Enabled”.
 - c. In Guarded Access, Unit Configuration menu, set 3rd Party Device Control to “COM1”.
3. Attach the supplied nameplate switch warning label to the front door below the door latch.
4. Allow unit to run and report to website to synchronize settings.

TracKing Verification Procedures

See “TracKing Verification Procedures” on page 38.

SB Units Step 3b - Units with SR2 or SR3 (w/Razor)



SB Units Step 3c - Units with ThermoGuard (non SR2)

These procedures are for SB-30 series units with ThermoGuard Controller & DAS using Razor module.

TracKing Module Installation

1. Open the control box door and position the TracKing mounting plate over the DAS location, mark and drill four #8 holes into the door and attach the bracket. The bracket must be used with or without the DAS.
2. Connect the two antenna cables to the TracKing module.
3. From TracKing harness connect:
 - Two harness connectors to TracKing module.
 - **uP-VI units without DAS** - Attach both ground (GND) wires to the control box ground stud.
 - **Units with DAS** - Attach (GND) wire with terminal onto the control box ground stud. Splice the second ground wire to the COM3 wire position (socket C).
 - Solder the Control Power (8) wire to the #8 wire terminal on the On/Off switch.
 - Attach the Power Wire (2S) with fuse to the #2 terminal on the relay board.
4. **uP-VI units with or without DAS** - use an Amp terminal remover tool (204-737) to remove the two wires from the Communication harness (see table) and replace them with TXA and RXA wires with the provided terminals, tape off the removed wires. If DAS is available, attach the TXB and RXB wires as described next, otherwise tape off the TXB and RXB wires from the TracKing harness.

TracKing	Comm. Port	Pin No.	Location
RXA	TXD3	11	Port 3
TXA	RXD3	14	Port 3

5. **Units with DAS** - Attach the TXB and RXB wires to the printer port connection per the illustration. Splice TXB to the RXD3 wire (socket a). Splice RXB to the TXD3 wire (socket B). Tape off the RXB and TXB wires if only connected to DAS.pwith the provided terminals, tape off the removed wires. If DAS is available, attach the TXB and RXB wires as described next, otherwise tape off the TXB and RXB wires from the TracKing harness.
6. Configure to REMC NO in super guarded access command.
7. **uP-VI units without DAS** - tape off the Xwake wire.
Units with DAS - locate the DAS 35-pin connector, remove it from the DAS module and disassemble as shown. Add a terminal to the Xwake wire and insert it into the DAS connector position 28. If there is a wire present, splice Xwake wire with this wire. Reassemble the connector.
8. Secure excess wires inside control box with bandwraps.

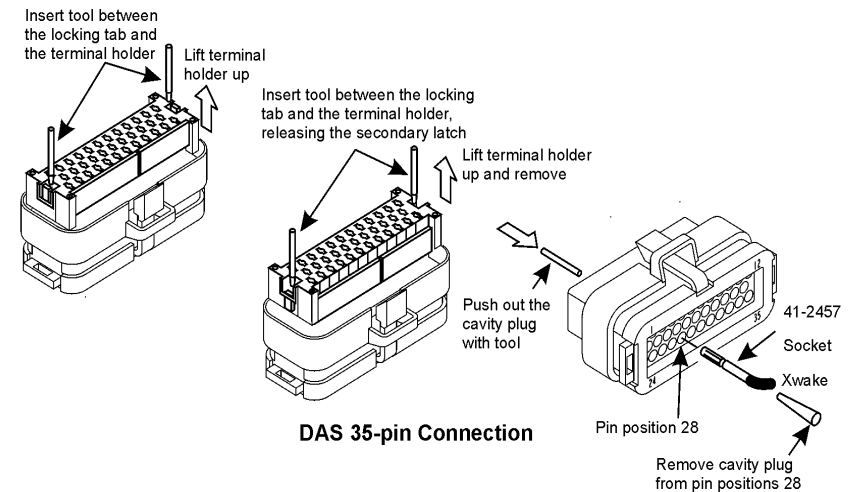
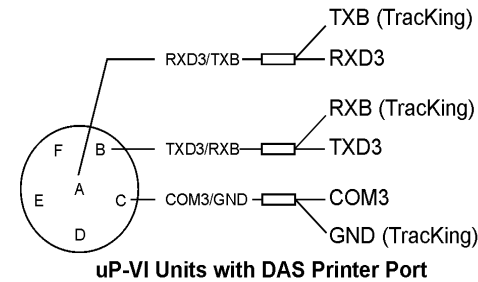
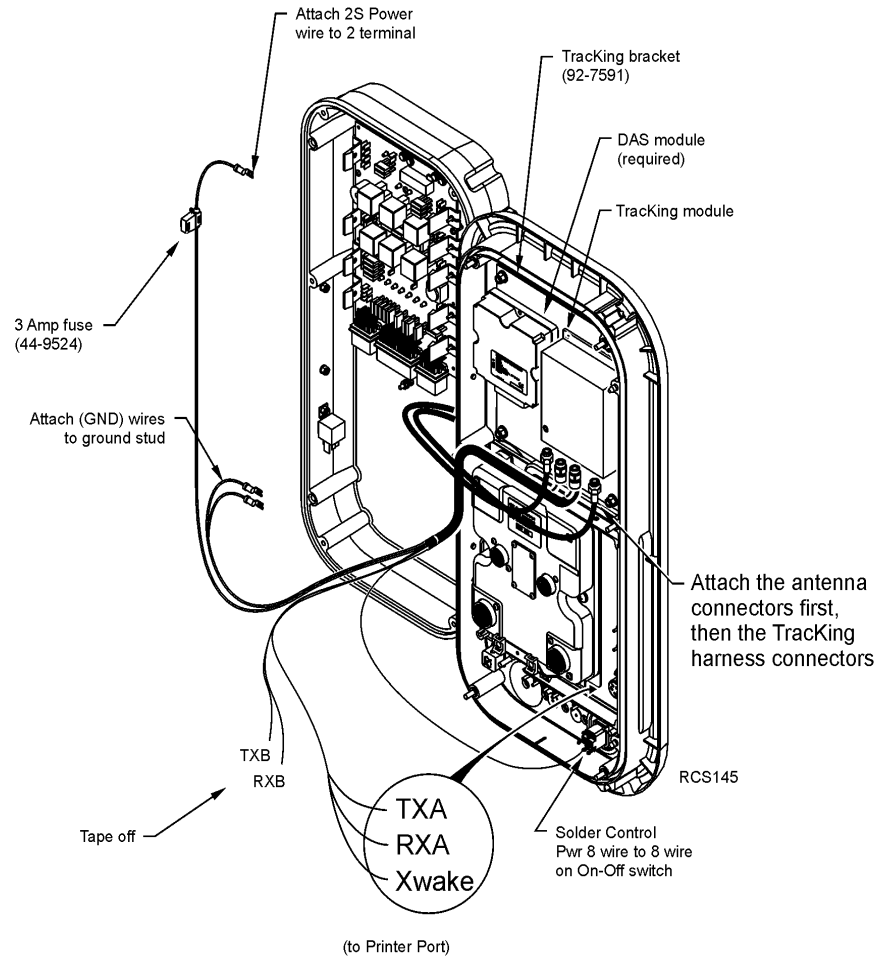
Power Cycle and Setup Procedures

1. Reconnect the negative battery cable:
 - Turn on the unit
 - Disconnect and reconnect the 7-pin connector - this will perform a power cycle of the GPRS module.

TracKing Verification Procedures

See “TracKing Verification Procedures” on page 38.

SB Units Step 3c - For Units with ThermoGuard (non SR2)



Super II Units Step 1 - Datalogger Configuration Procedures

These procedures are for Super II series units with ThermoGuard Controller & DAS (non-SR2) using Razor module.

Configuration Procedures

Before installing the TracKing Module and related components, use your WinTrac software and download the data from the TK datalogger.

1. Send a Text Header to the **DAS**. This will be used as a “marker” for the TracKing GPRS to download over the air (see example).

To retrieve a user manual, go to **www.tktracking.com**, enter your username and password. Click on “User Guide” link in the upper right corner of your screen.

Super II Units Step 1 - Datalogger Configuration Procedures

General Info | Start Trip | Sensors | Download

Choose Header: ☒ Text Header
☐ Start-of-Trip (SOT) Header

	Contents	Size
Trailer/Container ID:	UNIT 1234	11 chars
Vessel ID:		8 chars
Origin:	UK	3 chars
Shipper:	EDUARDO	8 chars
Setpoint:		5 chars
Operator:	TAN	3 chars
Date:	07/18/06	8 chars
Time:	10:21	5 chars
Product:	TK GPRS	8 chars
Destination:	TK	3 chars
Booking No.	PD 123456	9 chars
Comments:	Installation	14 chars

Send Text Header...

Download Data... | Update Unit | Close

Text Header

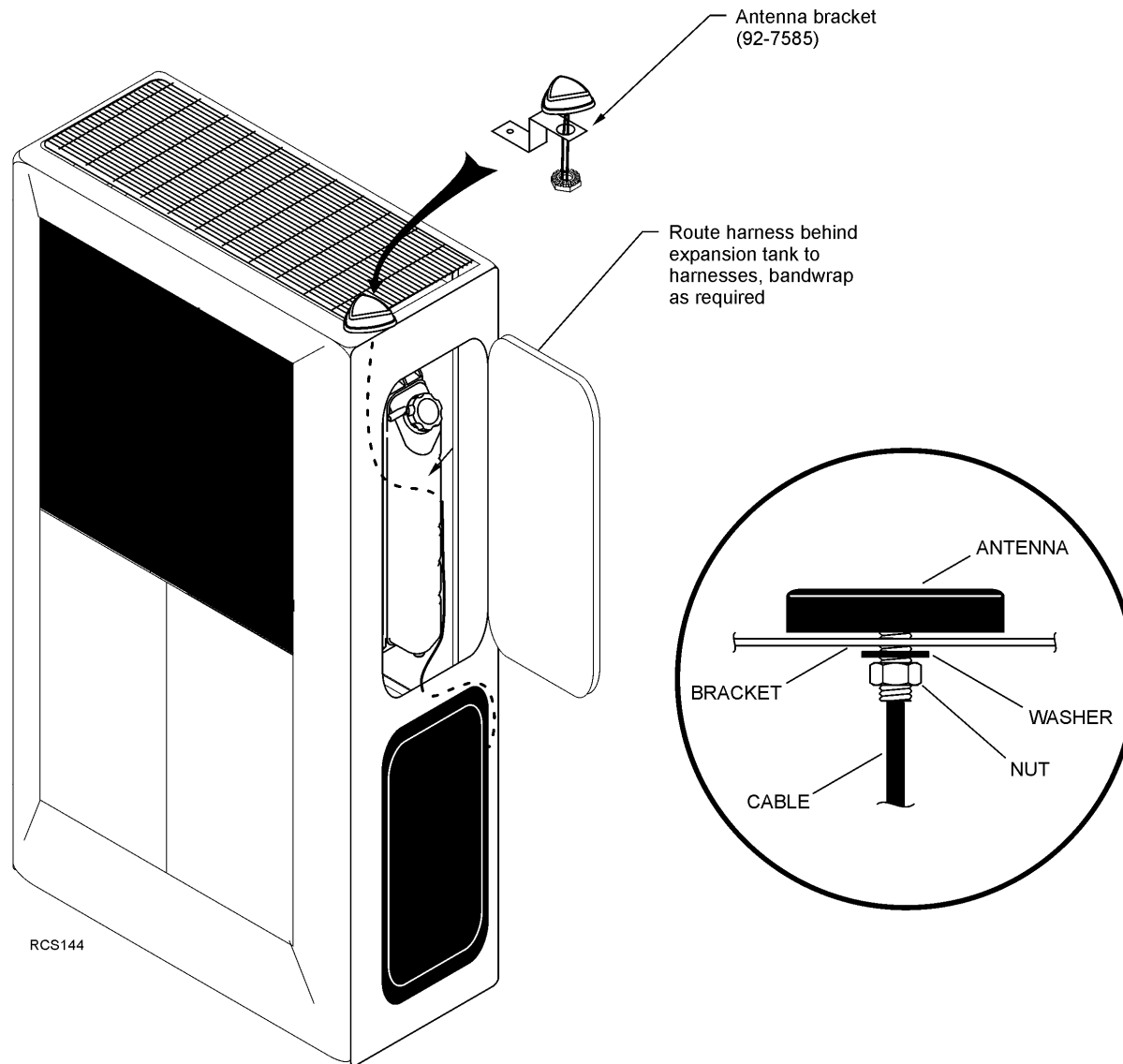
Super II Units Step 2 - Antenna Installation

These procedures are for Super II series units with ThermoGuard Controller & DAS (non-SR2) using the Razor module.

Antenna Installation and Cable Routing

1. Open all unit doors and access panels.
2. Mount the antenna to the antenna bracket with the provided washer and nut and tighten securely. The antenna is non-directional and can be mounted in any direction.
3. Attach the antenna bracket to the front corner grille mount with the existing hardware.
4. Route the antenna harness down into the condenser and behind the expansion tank. Route the harness next to the sensor harness and into the control box, secure with bandwraps as required.

Super II Units Step 2 - Antenna Installation



Super II Units Step 3 - TracKing Module and Harness Installation

These procedures are for Super II series units with ThermoGuard Controller & DAS (non-SR2) using Razor module.

Installation Procedures

1. Mount the TracKing module onto the bracket.
2. Connect the two antenna cables to the TracKing module.
3. Remove and discard the existing DAS mounting bracket and mount the DAS module beside the TracKing module on the new bracket. Attach the assembly to the control box door.
4. From TracKing harness connect:
 - Two harness connectors to TracKing module.
 - Attach (**GND**) wire with terminal onto the control box ground stud. Splice the second ground wire to the **COM3** wire position (socket C).
 - Solder the Control Power (**8**) wire to the #8 wire terminal on the On/Off switch.
 - Attach the Power Wire (**2S**) with fuse to the #2 terminal on the relay board.
 - Splice the following wires:

DAS Printer Port	TracKing Harness
RXD3	TXA
TXD3	RXA
COM3	GND

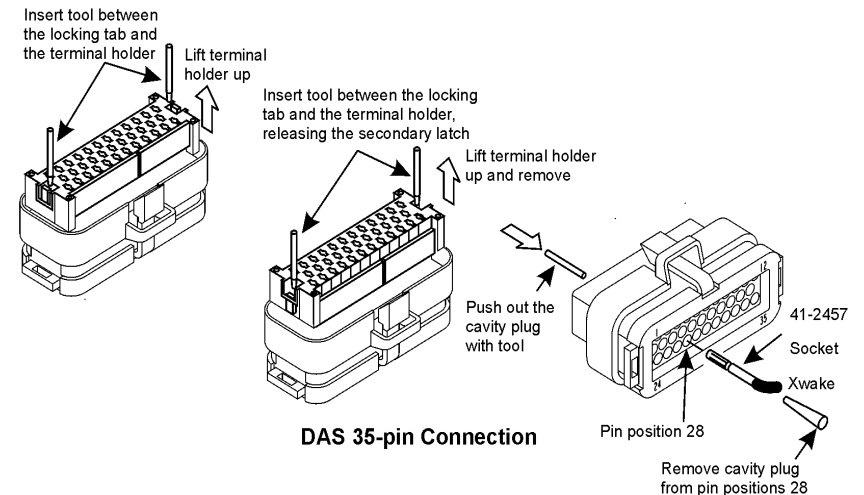
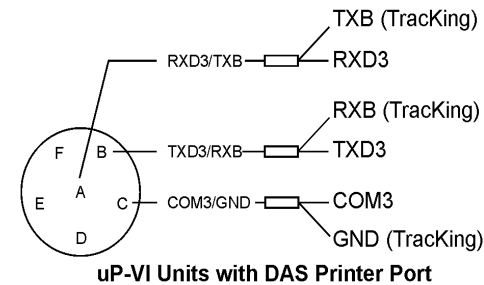
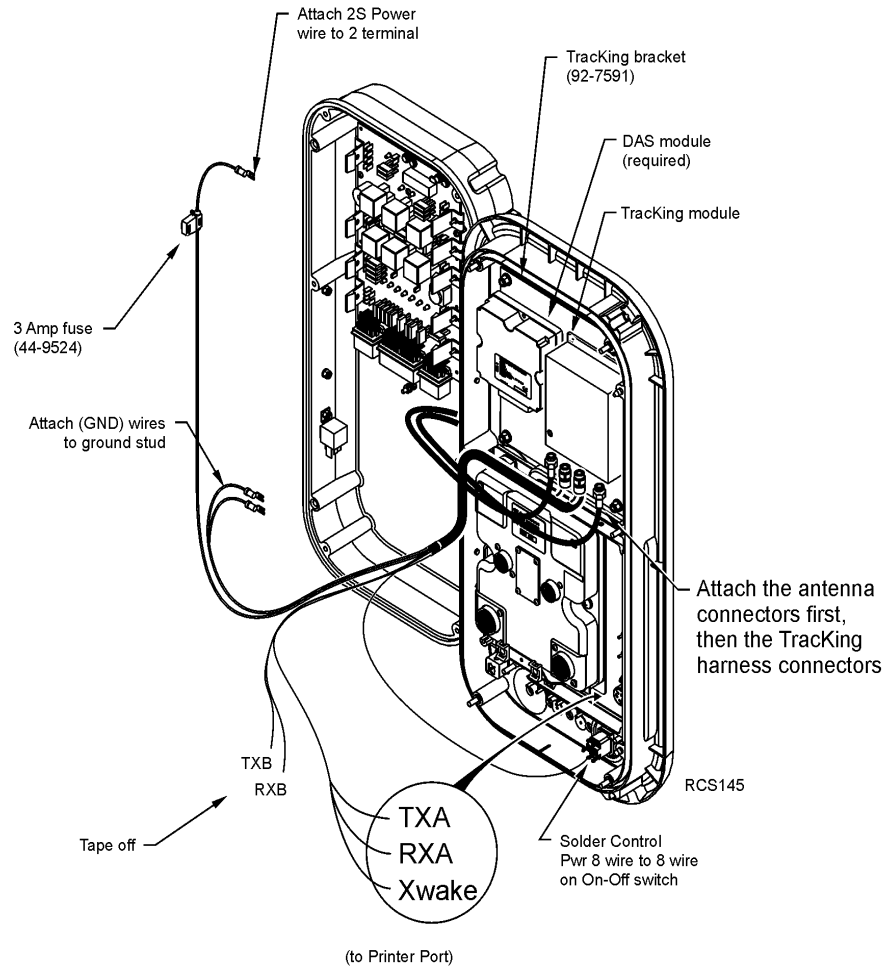
- Tape off **RXB** and **TXB**.

5. Locate the DAS 35-pin connector, remove it from the DAS module and disassemble as shown. Add a terminal to the Xwake wire and insert it into the DAS connector position 28. If there is a wire present, splice Xwake wire with this wire. Reassemble the connector.
6. Secure excess wires inside control box with bandwraps.

Power Cycle and Setup Procedures

1. Reconnect the negative battery cable:
 - Turn on the unit
 - Disconnect and reconnect the 7-pin connector - this will perform a power cycle of the GPRS module.
2. Return the unit to service.

Super II Units Step 3 - TrackiNG Installation



TrackIng Verification Procedures

Checking the Installation

1. Login to the TracKing new unit install site using a TracKing supported browser (Internet Explorer 10 or 11, Mozilla Firefox or Google Chrome).
 - a. Website: www.tktracking.com
 - b. Enter username: newunit1@thermoking.com
 - c. Password: Newunit1 (**Case Sensitive - Must use upper case N**)
 - d. Click Enter Site to load new unit install fleet.



TrackIng Verification Procedures (continued)

2. To find a unit:

- a. Once logged in, click on vertical blue bar to open Vehicle Selection Window.



- b. Type in unit GSM/mobile number in search field and hit enter or click on the search icon.



TrackKing Verification Procedures (continued)

- c. Place a check mark in the box of the highlighted GSM/Mobile number and then click the confirm Tracking List icon.



3. This will update the TrackKing list and show the selected vehicle.

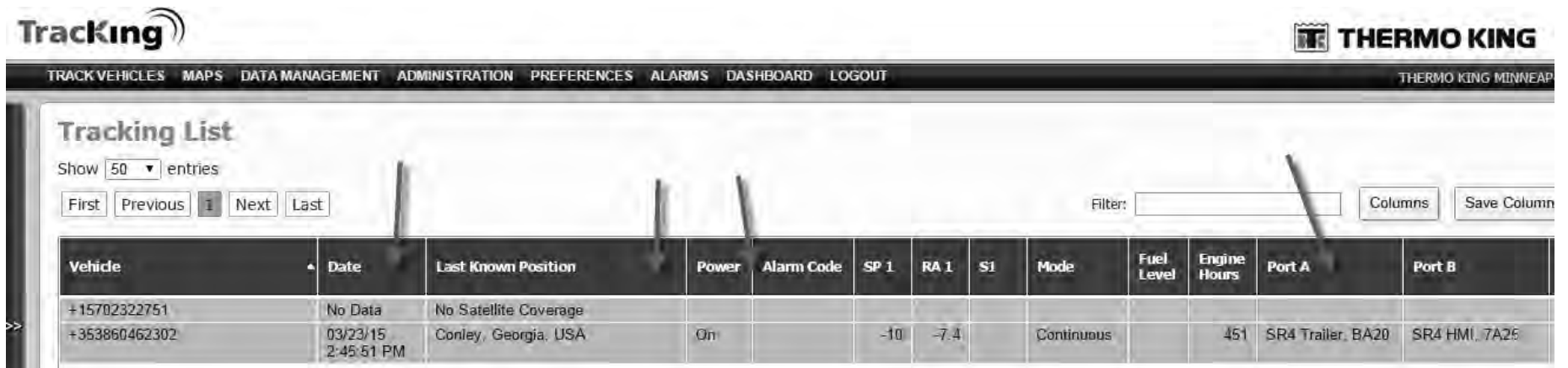
4. Verify TrackKing unit operation.

NOTE: If needed, see REB Diagnostic Manual 55065 for further diagnosing details.

- Always check for current Date/Time reading first. If the unit is reporting correctly, the unit should show a report within the last hour. If not reporting check the GSM connections.
- The Last Known Position column should show the unit location. If the position states No Satellite Coverage, the GPS antenna is not reading the GPS satellites. Check connections or if in a building.
- When the Reefer unit Power is ON you should be able to read Set point (SP1) and Return Air (RA1) readings. Along with mode and engine hours. If you do not see this information the TrackKing device is most likely not reading the controller.
- Do a manual set point change to cause an event message to be sent. You should be able to see the data change.
- The Port A and Port B columns should report and show the connected to device and software version on most applications.

TrackIng Verification Procedures (continued)

5. Once unit has been verified, complete the Activation/Deactivation form located on InfoCentral and email to trackingactivations@thermoking.com



Tracking **THERMO KING**

TRACK VEHICLES MAPS DATA MANAGEMENT ADMINISTRATION PREFERENCES ALARMS DASHBOARD LOGOUT THERMO KING MINNEAPOLIS

Tracking List

Show 50 entries

First Previous **1** Next Last

Filter:

Columns Save Column

Vehicle	Date	Last Known Position	Power	Alarm Code	SP 1	RA 1	S1	Mode	Fuel Level	Engine Hours	Port A	Port B
+15702322751	No Data	No Satellite Coverage										
+353860462302	03/23/15 2:45:51 PM	Conley, Georgia, USA	On		-10	-7.4		Continuous		451	SR4 Trailer, BA20	SR4 HMI, 7A25

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Thermo King Tracking GPRS Unit Activation / Deactivation Form

Customer Information

Company Name: _____

Vehicle Group: _____

Contract Order Ref: _____

TK Dealer & Dealer Code: _____

Mixed Fleet Customer?

[] YES

Unit Information

Installed by: _____

Installer's telephone number: _____

Install Date: _____

Vehicle ID Number: _____

GSM Number: _____

SIM number: _____

MAC Address: _____

REB/Razor S/N: _____

TK Unit S/N: _____

TK Unit Model: _____

Door Switch: Yes () No () . If yes, How many Doors? ()

Fuel Sensor: Yes () No ()

Fuel Tank Capacity: 50 Gal. () 110 Gal. () Intermodal 122 Gal.- 454L ()

Activate / Deactivate (circle one)

Warranty Replacement Unit Yes / No

If Replacement, please provide the numbers of unit being removed

GSM Number: _____

SIM number: _____

MAC Address: _____

REB/Razor S/N: _____

E-mail completed form to: trackingactivations@thermoking.com



Ingersoll Rand's Climate Solutions sector delivers energy-efficient HVACR solutions for customers globally. Its world class brands include Thermo King, the leader in transport temperature control and Trane, a provider of energy efficient heating, ventilating and air conditioning systems, building and contracting services, parts support and advanced controls for commercial buildings and homes.